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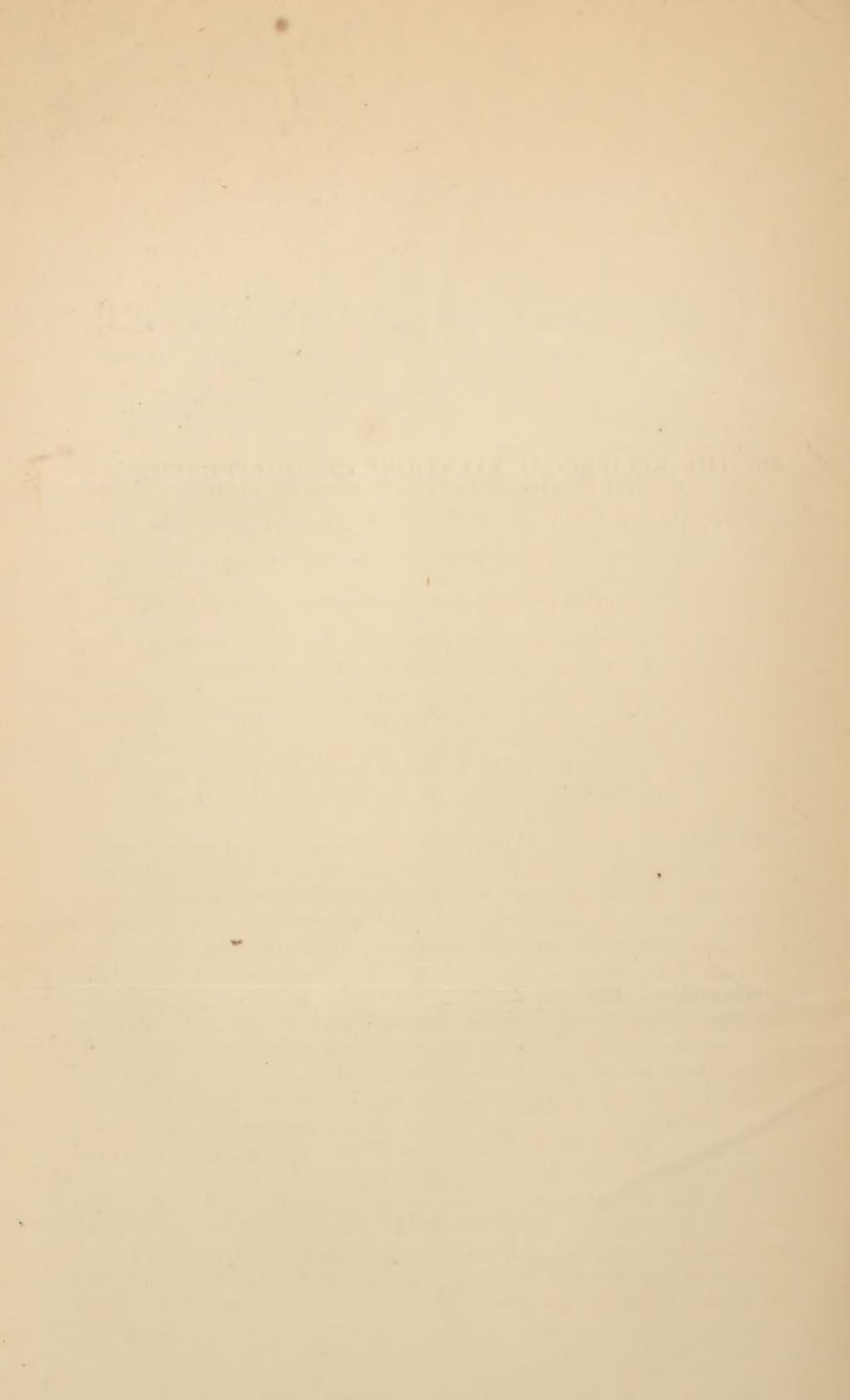
BY

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ON THE RECIPROCAL RELATIONS OF AN EFFICIENT PUBLIC HEALTH SERVICE AND THE HIGHEST EDUCATIONAL QUALIFICATIONS OF THE MEDICAL PROFESSION.

BY STEPHEN SMITH, M. D., NEW YORK.

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PLINY, the historian, informs us that during the first six hundred years of its existence, Rome was without physicians. This statement is not literally true, for there is evidence that Rome was not without a class of persons who devoted themselves to the healing art. Severe epidemics frequently prevailed, and it is stated that at times there was not a sufficient number of physicians to care for the sick. A more reasonable explanation of Pliny's assertion is that he had reference to qualified physicians, or graduates of the medical schools of that day.

In Greece, medicine had taken high rank among the learned professions, and was respected as a divine art. Its schools were famous for the thorough course of study pursued, and the high standard of educational qualifications required of their graduates. The proper relations of the medical profession to the State were also recognized, and no municipal government was regarded as complete that had not a competent medical element in its administration. Plato, in sketching the model Republic, recognizes the qualified physician as holding an important position among the officers of government. He says: "Is it not necessary to provide good physicians for the State, and must not these be, for the most part, such as have been conversant with the greatest number of healthy and sick people?" It was no infrequent occurrence that cities sent embassies to the leading schools to obtain highly educated graduates to fill the office of Archiatros, chief physician, or medical adviser of the government.

But Roman prejudice and Roman customs excluded educated physicians from the metropolis of the ancient world. The freeborn citizens of Rome had for a long period great aversion to Grecian arts and philosophy, and resisted the introduction of foreign elements into their civilization. Cato, the Censor, expressed the prevailing sentiments of his time: "I will tell

you," he wrote to his son, "when I have an opportunity, what I think of these Greeks, and what I esteem most of what there is in Athens. It is good to study, to some extent, their letters and sciences, but it is not necessary to learn them fully. I shall be done with this wicked and proud race. Nevertheless, be assured, as if a prophet had told you, that as soon as this nation shall have communicated to us its literature, it will spoil and corrupt everything, and this will be so much more easily effected if it sends us also its physicians. They have sworn among themselves to kill all barbarians by means of medicine, and yet they require pay from those whom they treat, in order to gain their confidence, and thus to ruin them more easily. They are insolent enough to call us barbarians, as well as others, and they treat us even more disdainfully by calling us *opiques*. In short, remember that I have forbidden you to employ physicians."

There was some ground for this distrust of Greek physicians, for medical practitioners from Greece frequently located in Rome, of whom, we are informed, "the greater number were only intriguants without instruction or manners, having no other aim than to make a fortune, and capable of every baseness to attain it."

The first attempt to secure competent physicians for the metropolis proved so disastrous as to intensify this prejudice. In the year 535, Archagathus, of Peloponnesus, was invited to settle at Rome, with the offer of the freedom of the city, and a liberal support at the public expense ; but he so abused his privileges as to incur the hatred of the people.

Another obstacle to the introduction of the cultivation of scientific medicine is found in the custom which made it derogatory to the character of a freeborn Roman citizen to exercise any art for pecuniary gain. The care of the sick was, therefore, committed to slaves and freedmen who assumed all the functions of physicians. Though many of these practitioners rose to eminence, and acquired great wealth and influence, yet they were never recognized as qualified physicians. There were no laws nor legal restrictions governing them as a responsible class. Pliny, speaking of the impunity with which these self-styled physicians imposed upon the people, complains that they were allowed to practice without undergoing any examination or giving any proof of their ability. "They learn it," he adds, "at our hazard, and acquire experience at the price of our lives. No law punishes their ignorance, nor is there any example of its being chastised. Only a physician can murder with absolute impunity." The historian Renouard remarks : "In the midst of this overflowing of charlatanism the health of the citizens was given over to the first impostor who called himself a doctor, for how could the cheat and usurper of the title be distinguished from the man of knowledge and probity, who had acquired it by study? No examination, no legal proof, was imposed upon any one who wished to practice medicine ; there was no security for the sick."

Whether Greek physicians were actually banished from Rome, in common with other learned sects, by a decree of the government, is not material. The historical fact seems well established that during the early periods of the Roman Republic scientific medicine was not cultivated, nor even recog-

nized in Rome. The disastrous results of this State policy appear frequently in the records of her epidemics, and in the complaints of the outrages perpetrated upon the people by the charlatans who overran the capital. Pestilences prevailed in their most violent and destructive forms, and all the measures adopted for their prevention and mitigation were of the most childish and inefficient character. Livy states that, following the advice of the Sibylline books, pestilence was repeatedly stayed at Rome by erecting a temple to Apollo, or to Esculapius, by celebrating public games, or by the Dictator driving a nail into the capitol. Every form of practice was introduced, from patriarchal medicine to the most ridiculous incantations. In the absence of all laws requiring special qualifications of those who practiced medicine, and proper restrictions against those who attempted to practice without qualifications, and, finally, proper penalties for those who committed errors in their practice, the greatest abuses prevailed.

The evils of this lax system at length became intolerable, and a reform was inevitable. It required but the stimulus of a public calamity to give shape and character to the reform. This came in the form of pestilence, which swept through the imperial city unchecked by the superstitious ceremonies of the magistrates. The people were awakened to a sense of their insecurity, and to the imbecility of the class of physicians to whom they had hitherto intrusted their health and lives. The measures adopted were as deep and radical as the former policy was superficial and inefficient. The reform began with the enlightenment of the Christian era, and the first step was to invite the representatives of the true art of medicine, the graduates of the schools from which only qualified physicians could emanate ; and they were not only invited, but they were installed in places of trust and responsibility in the government. We now, for the first time, learn distinctly of a Medical Officer of State in the Roman Government, under the title of Archiater, an office and title derived from Greece. At first this was rather a position of honor, without very distinct functions. Under the Christian emperors, however, other and far more important duties were imposed upon the Archiaters, and their number was greatly increased.

There were two classes of Archiaters,—one attached to the central government, and the other connected with municipal administration. The first class were designated by the term Palatine, and held rank among the officers of court, and had "at their head a Count or Duke, who was a peer with the higher dignitaries of the State. He bore the title of Count Archiater, or Count of the Archiaters."

The second class were called *archiatri popularies*, or popular archiaters. They formed boards or colleges. The number of State physicians was as follows : In the metropolitan cities there were ten ; in cities of the second class, or those provided with a forum, there were seven ; in the smaller cities there were five ; while at Rome their number was equal to the wards of the city. They were not appointed by the governors, but were elected by the people from among the candidates who had given proof of their capacity before the college, and had obtained its approbation. They received a salary from the public treasury ; they were exempt from disagreeable employ-

ments ; their property was not subject to taxation ; they could not be summarily brought before a magistrate, and they enjoyed ready means of redress in the courts when insulted or aggrieved. Although required to prescribe for the poor gratuitously, they could engage in general practice, and compel payment for their services. The term of their election and appointment to office was limited only by their ability or disposition to perform their duties. If negligent of their duties their salaries were withheld, and they were subject to deposition from office. If a private practitioner applied for a vacant seat among the Archiatiuers, he must have studied and practiced under some reputable member of their order, and have been regularly examined and licensed. He must then obtain the suffrages of the public to the vacant seat, and finally must receive the consent of at least seven of the members of the college before taking his seat.

The duties of these boards of State physicians were largely of a sanitary nature. And that these duties were performed with remarkable intelligence and zeal we have abundant evidence. The remains of aqueducts which brought pure water from distant sources to the towns, the well-constructed sewers and drains still in a state of excellent preservation, the public baths, the street pavements, are imperishable monuments of the enlightened sanitary administration which at one period prevailed throughout the Roman Empire. But more conclusive than these material evidences of the progress which sanitary knowledge had made at that time are the reforms which the boards made in the medical profession. In the progress of time it became apparent that there was a vital relation existing between the public health service and the qualifications of those who practiced the medical art. The country was overrun with every grade of practitioners, who for the most part were uneducated pretenders. They not only usurped places for which they had no proper qualification, but the health of the people suffered from their injudicious methods of practice. It was found to be impossible, therefore, to render the sanitary administration effective without fixing a proper standard of medical qualification, and forbidding, by compulsory laws, all practitioners who were not duly licensed.

Accordingly, we find that new and important duties were imposed upon the Boards of Archiatri, or Health Officers. They were required to determine and enforce the course of study pursued at the schools, to examine as to the merits of all persons who proposed to engage in practice, and finally to certify as to the qualifications of each applicant before the magistrates by whom the license was conferred.

Thus that branch of the government which was responsible for the health of the people, naturally and necessarily assumed jurisdiction over the educational qualifications of those whose professional acts directly affected the public health. The sanitary authorities not only fixed the scale of qualification, but they examined every applicant for a license to practice, and compelled each one to attain to the requisite standard. The schools thus became educational bodies, while the sanitary branch of government, on examination, certified to the qualifications of the candidates. But this certificate was not a license to practice. The applicant, with his certificate

in hand, next applied to a magistrate, who granted the license, and enrolled him as a duly and legally qualified physician. By virtue of this license he could practice his art in any part of the Empire, and aspire to the highest medical honors in the State. Without such license he could not assume the character and duties of physician except at his peril.

It is apparent from the preceding sketch that there were two distinct and well-defined periods in the history of medicine in the first centuries of the Roman Government. During the first period we witness one of the most enlightened nations of antiquity, so blinded by prejudice, and so hampered by custom, as to refuse its care and protection for centuries to a science the most humanizing, and an art the most beneficent. The result of such a policy was the enormous growth and extension of charlatanism, the unrestrained spread of pestilences, and the most deplorable oppression of the people. The evils to which this practical banishment of medicine from the State gave origin and support, finally became so intolerable that a thorough reform was inaugurated. This first period is very aptly styled by the medical historian, Renouard, the "*Unlicensed Laity Phase*."

The second period began with the generous recognition of the value and importance of a science and art which had so long been under sentence of banishment. Scientific medicine was recognized by the State as a necessary element of general and municipal government, and was installed in positions of great responsibility. To its care was committed the highest interests of the people; namely, the promotion and protection of the public health. Most important among these duties was the purification and elevation of the profession itself by requiring a high order of qualification among its members. To the sanitary branch of the municipal government was intrusted the duty of prescribing the course of medical education, and of enforcing, by examination, a suitable degree of qualification. The result of this organization of the profession was most salutary. The illiterate, and unqualified pretenders of every rank and grade, were driven from the country, and medical schools of great excellence were instituted. The medical profession gradually advanced, until it took rank throughout the Empire among the highest orders of society, and even of the nobility. This period is distinguished by Renouard, as the "*Legal or Organized Laity Phase*."

It is worthy of remark that during the second period there was organized throughout the Empire a most perfect system of sanitary government. This authority was remarkable for its high official character and for the important public duties with which it was charged. In this organization we notice several important steps: 1st. The recognition by the State of a distinct order or class of persons whose duties were intimately related to the public welfare. 2d. The appointment in each city of a given number of qualified physicians who formed boards or colleges. 3d. To these Boards were committed all the municipal interests affecting the health of the people. 4th. One of the most important of these interests was the regulation of medical education and practice. 5th. The formation of a Central Board of State Physicians, having immediate relations to the general government.

In other words, the basis of reform was the recognition of the reciprocal

relations of a well-administered public health service and high educational qualifications of the medical profession. The medium through which the State perfected the reform was the public health service, represented in State and Municipal Boards which were composed of the most competent physicians, and which were fully empowered to enforce the most thorough medical education, and to suppress all forms of irregular and irresponsible practice.

This review of the state of the medical art during the early periods of Roman history conveys a suggestive and useful lesson.

We cannot fail to see in this sketch the more prominent features of the history of medicine in our own country during the past century. Will it not be the duty of some future Pliny, writing centuries hence, to make the statement that, during the first one hundred years of its existence, the Republic of the United States had no physicians! If he were to search our statutes for evidences of the rank and position of the medical profession, as we search the Justinian Code for substantial proofs of the position of the medical profession at Rome, in different periods of history, he would find the highest conception of a physician to which American law had attained at the close of the first century of the Republic defined by competent legal authority as follows:—

“THE TERM PHYSICIAN MAY BE APPLIED TO ANY ONE WHO PUBLICLY ANNOUNCES HIMSELF TO BE A PRACTITIONER OF THIS ART, AND UNDERTAKES TO TREAT THE SICK EITHER FOR OR WITHOUT REWARD.”

He might very justly infer from this definition that medicine as a science and an art was unknown in this country, and that medical practice was placed on the same plane as the most common trade. And his conclusions from these data would not only be logically correct, but they would be historically true. The declaration, that any one who publicly announces himself a practitioner of this art is a physician, is equivalent to declaring that there is no class of persons specially qualified to practice medicine, or, in other words, that all persons are qualified who publicly assume the duties.

Before the law, medicine occupies the position of the most ordinary handicraft, and is subjected to the same legal restrictions and obligations. The qualifications of the physician have been and still are regarded as of no greater importance than the qualifications of the artisan or laborer. Indeed, the common laborer can more readily and successfully assume the duties of physician than those of an artisan. He has but to announce himself a physician by posting the word “doctor” on his house, and prefixing it to his name, to legally qualify himself to practice that art, and generally to insure success; but the assumption of the duties of an artisan by simply opening a shop, rarely deceives any community into the belief that the person thereby becomes qualified for new and difficult duties.

While the historian who consulted our statute books might reasonably conclude that scientific medicine had no recognition, and hence no existence, in the United States for one hundred years, our literature and our institutions would give ample evidence of not only the existence of medical

science and medical art, but of its activity. Names of medical men would appear in their annals who received the homage of the people for their great and useful labors. Institutions of learning and charity founded and fostered by medical effort and self-sacrifice would abound. A more rational conclusion to which the philosophical historian would come would be, that scientific medicine secured and maintained whatever rank it held by its own unaided efforts. And such conclusion would be correct. The century which is about to close has been the "*Unorganized Laity Phase*" of the medical art in this country. Ignored by the State, confronted by every form of charlatany, rejected often by other learned professions, legitimate medicine has maintained its ancient honor untarnished. It has honorably striven to obtain a recognition of its position, and laws have from time to time, and in different States, been enacted which have in some inadequate measure met the needs of the profession. But such legislation has no stable foundation in an appreciative and intelligent governing power. The faintest breath of opposition has at once led to the repeal of laws the most necessary and salutary. So fickle have legislatures proved, in enacting and maintaining laws regulating the practice of medicine, that for the most part the profession has ceased to look for aid or protection from the State. In fact, there has grown up such a feeling of repugnance to all efforts to obtain legislation in the different States, that the discussion of the subject is prohibited in many medical societies. The result of this alienation from governmental protection, has been to create and stimulate into healthy activity in the profession the sentiments of self-reliance and self-help. The profession has manfully struggled to raise the standard of medical education and qualification, and has maintained the most vigorous rules of ethical discipline. But it cannot be denied that these efforts have been comparatively unsuccessful, and that scientific medicine has not attained in this country its proper rank and respectability. The history of medicine in all countries demonstrates how powerless it is to secure more than a mediocre rank when left to its own unaided resources.

Nor is it difficult to discover the causes of failure. It may be stated as an axiom that, whenever the State places a profession requiring expert knowledge for its proper practice (but its real value cannot be fully determined by the people) upon the same footing as that of uneducated labor, such profession will be largely pursued by thoroughly unqualified persons. And the axiom may be supplemented with the statement that such learned profession cannot, in a State which thus ignores it, enforce any suitable educational qualifications. Where there is no legal standard, the schools will be conducted as private enterprises, and the objective point at which their pecuniary interest and their rivalry will aim will be large classes and the largest numbers of graduates. Powerless to enforce a system of education and maintain a standard of qualification, the profession must resign to the schools the entire control and management of its educational interests. Each school, therefore, is at liberty to fix its own course of study, to teach any method it may choose, to determine the qualification of its own candidates for graduation, and finally, to confer the degree of Doctor of

Medicine upon these candidates. The natural fruits of this system are seen in a low standard of education and qualification, and a country overrun with charlatans, some holding diplomas, others ignoring them as worthless, but all *legally* qualified to exercise the divine art of healing.

And this vicious system is inherent in the policy pursued by the State, of refusing to prescribe and enforce a scheme of education and maintain a standard of qualification. The profession cannot rescue itself from this predicament of committing all its educational interests unreservedly to the schools which chance or self-interest may have inaugurated. And it can never be made the interest of schools, thus organized, to adopt a system of teaching, or a grade of qualification for graduation, which will alienate any students because of the thoroughness of the former or the high character of the latter. We believe, therefore, that, by reliance on its own unaided resources, the medical profession cannot elevate itself.

The question arises, a question which has most profoundly agitated the medical profession, and which is to-day of the greatest interest to the American physician: "How can medical education, medical qualification, and medical practice be so elevated and protected as to secure to medicine, as a profession, that rank in community and in the State which its importance demands?" History teaches us that we can only look forward hopefully to the "*Legal or Organized Laity Phase.*" In other words, the only power which can give rank and character to medicine is the State. And by this we mean that the State shall recognize in medicine a science and an art having such relations to the public interests that it must be placed under the surveillance of government. It is apparent that if any State should be so enlightened as to recognize the fact that the medical art, or practice, directly affected the sickness and death-rate of the people, — favorably when practitioners were highly educated in medicine, and unfavorably when they were uneducated, and should thereby be led to forbid, under stringent laws, the practice of uneducated men, — a great step would be taken toward giving character to the practice of medicine. If the State should take another step, and by competent medical authority should fix a high standard of educational qualification for all who engage in the practice of medicine, this calling would become still more honorable, respectable, and dignified. Finally, if the State, under the guidance of the same authority, should take cognizance of the schools of medical education, should prescribe the course of studies to be pursued, and should examine the candidates for graduation, and confer the diploma on the truly worthy and competent, can there be any doubt that medicine would be exalted to the highest rank of respectability, both in society and in the State?

The question recurs, How can the State be brought to a proper recognition of medicine as an essential element of good government? Must we depend upon some devastating, wide-spread pestilence to awaken the people, like that which aroused the citizens of Rome, and made them demand that the long-discarded art of medicine should be installed in the civil administration of the Empire?

In imperial governments, as those of the continent of Europe, this ques-

tion not only admits of ready solution, but has long since been settled. They have recognized the true relations of all the sciences, and regard them as the equivalent of useful and usable power in every department of the State. Every branch of skilled labor is, therefore, not only protected from competition with unskilled labor by vigorous enactments against mere pretenders, but every needed facility is given to secure the most thorough education and the highest qualification of those who enter the ranks of skilled labor. Hence, not only is the unqualified practitioner of medicine debarred from imposing upon communities, but universities of learning are endowed, and every possible encouragement is given to those who select medicine as a profession, to thoroughly qualify them for their future duties.

In this country, however, all is changed. License is the rule, and class distinctions are discarded. Legislation in the interests of any single business or profession meets at once with opposition of the most violent and unreasoning kind. The inalienable right of the individual to do or to be what he pleases asserts itself in the most imperious manner. Every man his own lawyer or his own doctor is an axiom which American education and custom ingrains in the citizen. The result is that no legal distinctions have been, or long will be, tolerated between classes of the people. All legislative barriers which may have been accidentally erected are sooner or later rudely broken down, and whatever sacred inclosure may have been religiously set apart and consecrated to the uses of a privileged order is doomed to be profaned by the feet of the rudest and most uncultivated.

It is apparent, therefore, that coöperation of the State is not to be secured in this country by the same means as in a government where the will of a single intelligent sovereign is alone to be consulted. Mere direct appeals to the people or to legislatures will effect nothing, nor can legislation of an adequate or permanent character be obtained by petition or remonstrance. There must be established in the public mind a fixed belief that their welfare requires the incorporation of certain new powers and functions into the civil administration ; and these new powers and functions must, in their practical application, accomplish the reform desired.

Those who have carefully observed the progress of events during the past few years, must have recognized a new element in our political system, which is destined to become a power of no mean import. I refer to the PUBLIC HEALTH SERVICE. In every State in the Union the agitation has begun, which can only terminate in the incorporation of this new element of administration into State and municipal governments. Already in no less than seven States¹ has State medicine found an abiding place in the central government ; and there can be little doubt that within a decade of years every State in the Union will inaugurate its sanitary branch of the general government. Nor will the progress of the reform cease with this enlargement of the scope of administration by the State, but every municipality and township throughout the country will have its local sanitary authority.

We recognize in this new element in the State the same power which in the Roman Commonwealth and Empire gave medicine imperial rank. And

¹ Ten States in 1876.

this great and salutary reform was accomplished, as we have seen, not by violence, nor by arbitrary measures, nor yet by intrigue, but by the gradual assumption of duties which the State and people recognized as of vast importance to the public welfare. It requires but little penetration to discover that there is a growing confidence in American communities in Preventive Medicine. The public mind is remarkably receptive of information, and sufficiently prompt to respond to all the requirements which the reform movement may demand. It is in this quick appreciation of sanitary truths by the people that we recognize the strength and permanency of the advancing reform. There will be established in the public mind a fixed and unalterable faith in the power of scientific medicine to protect them from pestilence, whether foreign or domestic ; to discover and remove the causes of disease within and around their homes, and to promote the general health of communities. Such a faith will not be created by mere argument or appeal, but must have for its basis a general enlightenment of the people on all subjects relating to the possibility and economy of protection from disease, and an organized public health service which daily demonstrates the power of preventive measures to fully meet the public expectation and demand. There can be no healthful progress in sanitary reform, and no stable results secured in our form of government, without this public confidence and public faith. And the public health service can never inspire the proper degree of confidence unless it is sustained by medical science and medical art in their highest degree of development. For Preventive Medicine as a science depends upon an exact physiology, pathology, etiology, chemistry, and therapeutics. Without a knowledge of physiology our views of pathology would be incorrect. If ignorant of the causes of the disease, we should not know what preventive measures to employ ; and if chemistry and therapeutics were imperfectly understood, we should not know how to apply the antidote which would destroy or arrest the development of the germ or poison. Every step of progress which sanitary science has made has been by the aid of the medical sciences. Indeed, sanitary science is but an expression of the higher development of the medical sciences ; and history proves that a public health service not organized upon the basis laid by the medical sciences, and not governed or directed by the principles which they have established, is pure charlatany. It may for a time deceive a community, but it can never gain its permanent confidence. When the trial comes, it will be found to be a cheat and a fraud. A well organized and thoroughly effective public health service means something more than a method by which matters and things offensive to the sight or smell are to be removed or destroyed. It means an organization with every needed scientific appointment, and fully capable of tracing out all the hidden sources of disease, whether confined to the air, the soil, the water, or the food ; in the dwelling, the workshop, or the manufactory ; in the public school or the places of resort. It means that, having found the causes of unhealthfulness, it is capable of destroying them, however immaterial they may be. It means that on the approach of a great pestilence, or during its prevalence, such service can ward off an attack or mitigate its severity, or control and

subdue it. Nor will the duties of a competent health service be limited to the study of the causes of disease and the methods of prevention. It will studiously seek out and correct all those conditions which tend to deteriorate the physical condition of each generation, which impair health, and which diminish longevity. Everything which affects the development, growth, maintenance and long life of the individuals, or classes of a community, fall legitimately within the scope of its inquiry. It is evident, therefore, that the real efficiency and success of a public health service must depend primarily upon the state of advancement of the medical sciences, and the extent to which such service relies upon these sciences.

There is still another more important relation of a higher medical education to the public health service; namely, the application of the medical sciences in the daily practice of the physician. Every professional act affects the health of an individual, and frequently it affects profoundly the health of the whole community. If the physician is ignorant, the patient must suffer, and in proportion as the physicians are ignorant, the public health must deteriorate. It is not a question of what remedies are employed, or what theories of disease prevail, but simply whether the physician is a thoroughly educated, and hence, competent practitioner. In the hands of the qualified, conscientious physician, all remedies are safe, and no mere theory can fatally mislead. How frequently is the patient sacrificed because of a false diagnosis by an ignorant physician! If the total of fatal cases from misapplied remedies, or the neglect of the proper remedy at the proper time, could annually be tabulated, and then faithfully and fearlessly presented to any community, what amazement, what consternation even, such an exhibit would create! And if every fatal case could be so discreetly analyzed as to detect each error in diagnosis and treatment, what a vast percentage of the annual mortality would be justly chargeable to the ignorance of the medical attendants! The country would be horrified at the enormous sacrifice of life through sheer incompetency of those intrusted with the sacred duties of physician, and would realize in some measure the terrible penalties which it pays for allowing any person to be a legally qualified medical practitioner who publicly announces himself "doctor."

Yet the evils of ignorance in the medical profession are not limited to the individuals who suffer from malpractice at the hands of the pretender. The whole family, and frequently the entire community, become the victims of misplaced confidence. The failure to recognize contagious diseases in their incipient stages, and, when recognized, the failure to promptly employ proper preventive measures, has involved many a family and many a community in irretrievable disaster.

It is needless to multiply the evidences that the success of a well-organized public health service depends vitally upon the development of scientific and practical medicine. The question naturally arises, Are these relations reciprocal? Must medical science and medical art rely upon the public health service to secure their highest development and greatest practical usefulness?

We have seen that in the Roman State the public health service and med-

ical science progressed *pari passu* to the highest and most perfect development of each which is known in the history of the race. The initial step was the recognition by the people of the necessity of adequately protecting the State from the devastations of oft-repeated pestilences. They sought relief in the hitherto discarded science of medicine, and in an imperfectly organized public health service. But they early recognized that these two elements, one of the social and the other of the State organization, held mutual relations to the same public interest, and were necessarily dependent upon each other for success in their several spheres of duty. The public health service required that schools of medicine should be established with the most competent teachers which the world could afford, the highest possible grade of educational qualification was required of practitioners, the license to practice was to be certified by an independent board of examiners, and finally all unlicensed practitioners were suppressed. Medicine, on its part, brought to the public health service, and to the care of the sick, men skilled in all the sciences of that day. The sanitary branch of the government of State and municipalities became the glory of the empire, and the medical profession attained its highest rank.

In modern times, England is more correctly interpreting the relations of a well-organized public health service and the highest educational qualifications of the medical profession. A quarter of a century ago, cholera awoke the people of that country to a sense of their want of protection from pestilences, and the Royal Commissions of inquiry into the state of the public health revealed the existence of domestic pestilences far more destructive of life than the much-feared foreign epidemic. An imperfect public health service was organized, which has year by year improved in completeness and efficiency. At its head is now placed one of the foremost medical scholars of Europe, and in the ranks of its officers we recognize the names of the most advanced students of physiology, pathology, chemistry, therapeutics, and the practical branches—surgery and medicine. With the progress of improvement of her sanitary organization, the rank and character of the medical profession has advanced. Largely through the demands of the public health service, England has perfected a system of medical education and registration, having as its directing authority a board composed of the ablest representatives of the medical sciences in that country. Every person desiring to practice medicine in England must prove his qualifications before the proper officer, and be registered, and failing to do this, he is rigorously prosecuted if he attempts to exercise this art. Though the standard of medical qualification has been greatly advanced, yet the sanitary branch of government still demands higher educational preparation of students of medicine as an essential element in the measures adapted to promote the public health. And it can point with infinite satisfaction to the diminishing death-rates of the metropolis and of the country towns and districts as evidence of the value of a highly educated and thoroughly protected body of medical practitioners. And not less important to the future welfare of the nation are those profound and accurate studies of the sources of disease among its people, so ardently and so successfully pursued by her graduates from the higher departments of medical learning.

Standing on the very lowest plane, our public health service immature and unstable, and the medical profession unrecognized and unorganized—it will doubtless appear chimerical if we advance the proposition that the future elevation and purification of the latter will be largely, if not entirely, due to the former. The relations of the two are so intimate that it is impossible for one to advance without a corresponding advance of the other. And that the public health service will become more and more perfect in all the details of organization and administration, all history and our own observation abundantly prove. The hopeful and powerful element in sanitary reform on which we rely for future success is the will of the people once aroused and properly enlightened. Preventive Medicine is always popular with the masses, for it appeals to their highest interest. The impulse which has been given to public thought and inquiry is beginning to bear its fruits. The people listen eagerly to instruction on all subjects relating to hygiene, and everywhere we hear inquiries in regard to the causes and methods of prevention of prevailing diseases; and those inquiries, instead of diminishing, will become more frequent and more importunate. In ten thousand ways these inquiries are answered, and the people are enlightened. The press now daily teems with information in regard to sickness and its causes, and the means of prevention; societies are eagerly discussing sanitary questions, and the occasional visitation of an epidemic serves to intensify the interest, and render the impressions made more and more permanent. There will, we believe, be no retrograde movement in this reform. Sanitary organizations will multiply until the entire country is brought under a well organized public health service. Imperfectly as this service may be administered at first, the tendency will be to improvement, and the forces on which this improvement will depend will be those supplied by scientific medicine. At the very outset of this great reform, therefore, we are justified in the prediction that medical science and medical art are to be, not only the great elements of power on which the public health service must rely to accomplish its mission, but they must be elevated and purified as necessary to the permanent success of the reform.

If this prediction is realized, it is not difficult to forecast the future history of scientific medicine and the public health service in this country. Advancing hand in hand, they will repeat the main features of the history of those two coördinate elements of society and the State in the Roman republic and empire. The State will demand the highest possible efficiency in the public health branch of its administration. But such efficiency can be attained only through the highest educational qualifications of those who pursue medicine as a profession. The sanitary authority of the State must in turn demand and obtain the power to prescribe the course of medical education, to fix the standard of qualification, to enforce such grade of qualification by examination through a competent and independent examining board, to require registration of all qualified persons, and adequate penalties for every attempt on the part of unregistered persons to engage in practice. Nor is this scheme of reform impracticable owing to the alleged antagonism of medical schools. There is no difference of opinion among

medical men, of every rank and shade of opinion and practice, as to the necessity of the thorough education of practitioners in the principles of the sciences. Every school of practice not only recognizes the necessity of requiring of a medical student that he shall have a proper knowledge of the fundamental branches before he assumes the responsibilities of his profession, but, for the most part, they teach these branches in the same manner, and from the same text books. If, then, all classes of practitioners agree as to the necessity of a curriculum, embracing the foundation studies, as anatomy, physiology, chemistry, and the principles of medicine, surgery, and obstetrics, there can be no obstacle to the "one portal" plan of entering the medical profession. The schools of every class would then assume their proper position and functions as educators, while the State would protect and promote the public welfare by guarding at the "portal" against the entrance of unqualified men into the ranks of the guardians of the health and lives of the people. When these reforms are effected, medicine will assume its ancient position in society and in the State. Purified and elevated, it will again be regarded as a "divine art."

May we not hope that, with the close of the first centennial of the Republic, we shall witness in the history of medicine in the United States the close of the "*Unorganized Laity Phase*," and that with the commencement of the second century we shall recognize the beginning of the "*Legal or Organized Laity Phase?*"